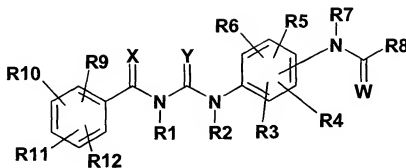


What is claimed is:

1. A compound of the formula I,



I

in which

W, X, Y are, independently of one another, O or S;

R9, R10, R11, R12 are, independently of one another, H, F, Cl, Br, OH, CF<sub>3</sub>, NO<sub>2</sub>, CN, OCF<sub>3</sub>, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, O-(C<sub>2</sub>-C<sub>6</sub>)-alkynyl, O-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, O-SO<sub>2</sub>-phenyl, where the phenyl ring may be substituted up to twice by F, Cl, Br, CN, OR13, R13, CF<sub>3</sub>, OCF<sub>3</sub>, COOR13 or CON(R14)(R15),

S-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, S-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, S-(C<sub>2</sub>-C<sub>6</sub>)-alkynyl, SO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>NH<sub>2</sub>, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, -COOR13, (C<sub>1</sub>-C<sub>6</sub>)-alkylene-COOR13, CON(R14)(R15), -N(R14)(R15), (C<sub>1</sub>-C<sub>6</sub>)-alkylene-N(R14)(R15), NH-COR13, NH-CO-phenyl, or NH-SO<sub>2</sub>-phenyl or phenyl, where the phenyl ring may be substituted up to twice by F, Cl, Br, CN, OR13, R13, CF<sub>3</sub>, OCF<sub>3</sub>, COOR13 or CON(R14)(R15);

R13 is H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl or (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl;

R1, R2 are, independently of one another, H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, where alkyl may be substituted by OH, O-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, N(R14)(R15), O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, O-(C<sub>2</sub>-C<sub>6</sub>)-alkynyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-(C<sub>2</sub>-C<sub>6</sub>)-

alkenyl, CO-(C<sub>2</sub>-C<sub>6</sub>)-alkynyl, COOR13 or -COOR13, (C<sub>1</sub>-C<sub>6</sub>)-alkylene-COOR13;

R3, R4, R5, R6 are, independently of one another, H, F, Cl, Br, OH, CF<sub>3</sub>, NO<sub>2</sub>, CN, OCF<sub>3</sub>, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, O-(C<sub>1</sub>-C<sub>10</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>10</sub>)-alkenyl, O-(C<sub>2</sub>-C<sub>10</sub>)-alkynyl, S-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, S-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, S-(C<sub>2</sub>-C<sub>6</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, where alkyl, alkenyl, alkynyl and cycloalkyl may be substituted one or more times by F, Cl, Br, SO-phenyl, SO<sub>2</sub>-phenyl, where the phenyl ring may be substituted by F, Cl, Br or R13, or OR13, COOR13, CON(R14)(R15), N(R14)(R15) or CO-heteroalkyl, O-SO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-SO<sub>2</sub>-(C<sub>6</sub>-C<sub>10</sub>)-aryl, O-(C<sub>6</sub>-C<sub>10</sub>)-aryl, where aryl may be substituted up to twice by F, Cl, CN, OR13, R13, CF<sub>3</sub> or OCF<sub>3</sub>, SO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-(C<sub>6</sub>-C<sub>10</sub>)-aryl, where the phenyl ring may be substituted up to twice by F, Cl, Br, CN, OR13, R13, CF<sub>3</sub>, OCF<sub>3</sub>, COOR13 or CON(R14)(R15), SO<sub>2</sub>-N(R14)(R15), COOR13, CO-heteroalkyl, N(R14)(R15) or heteroalkyl;

R14, R15 are, independently of one another, H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, where alkyl may be substituted by N(R13)<sub>2</sub>, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, COO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, COO-(C<sub>1</sub>-C<sub>6</sub>)-alkylene-OCO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-phenyl, COO-phenyl, COO-(C<sub>1</sub>-C<sub>6</sub>)-alkenyl-phenyl, OH, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>1</sub>-C<sub>6</sub>)-alkenyl-phenyl or NH<sub>2</sub>;

or the radicals R14 and R15 form with the nitrogen atom to which they are bonded a 3-7-membered, saturated heterocyclic ring which may comprise up to 3 heteroatoms selected from N, O or S, where the heterocyclic ring may be substituted up to three times by F, Cl, Br, OH, oxo, N(R16)(R17) or (C<sub>1</sub>-C<sub>4</sub>)-alkyl;

R16, R17 are, independently of one another, H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, where alkyl may be substituted by N(R13)<sub>2</sub>,

(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, COO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, COO-(C<sub>1</sub>-C<sub>6</sub>)-alkylene-OCO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-phenyl, COO-phenyl, COO-(C<sub>1</sub>-C<sub>6</sub>)-alkenyl-phenyl, OH, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>1</sub>-C<sub>6</sub>)-alkenyl-phenyl or NH<sub>2</sub>;

heteroalkyl is a 3-7-membered, saturated or up to triunsaturated heterocyclic ring which may comprise up to 4 heteroatoms selected from N, O or S, where the heterocyclic ring may be substituted up to three times by F, Cl, Br, CN, oxo, (C<sub>1</sub>-C<sub>4</sub>)-alkyl, -COOR<sub>13</sub>, (C<sub>1</sub>-C<sub>4</sub>)-alkylene-COOR<sub>13</sub>, COOR<sub>13</sub>, CON(R<sub>14</sub>)(R<sub>15</sub>), OR<sub>13</sub>, N(R<sub>14</sub>)(R<sub>15</sub>) or phenyl, where phenyl may be substituted by COOR<sub>13</sub>;

R<sub>7</sub> is H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, where alkyl may be substituted by OR<sub>13</sub> or N(R<sub>14</sub>)(R<sub>15</sub>), O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>1</sub>-C<sub>6</sub>)-alkylene-COOR<sub>13</sub>, or COOR<sub>13</sub>;

R<sub>8</sub> is N(R<sub>18</sub>)(R<sub>19</sub>) or OR<sub>20</sub>;

or R<sub>8</sub> and R<sub>4</sub> together form the group -NH-CO-;

R<sub>18</sub>, R<sub>19</sub> are, independently of one another, H, (C<sub>1</sub>-C<sub>10</sub>)-alkyl, (C<sub>2</sub>-C<sub>10</sub>)-alkenyl, (C<sub>2</sub>-C<sub>10</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>6</sub>-C<sub>10</sub>)-aryl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>2</sub>-C<sub>4</sub>)-alkenyl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>2</sub>-C<sub>4</sub>)-alkynyl, heteroaryl, heteroaryl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, heteroaryl-(C<sub>2</sub>-C<sub>4</sub>)-alkenyl, heteroaryl-(C<sub>2</sub>-C<sub>4</sub>)-alkynyl, where alkyl, alkenyl, alkynyl and cycloalkyl may be substituted one or more times by F, Cl, CN, OR<sub>13</sub>, R<sub>13</sub>, CF<sub>3</sub>, OCF<sub>3</sub>, (C<sub>6</sub>-C<sub>10</sub>)-aryl, NH-C(=NR<sub>14</sub>)-N(R<sub>14</sub>)(R<sub>15</sub>), N(R<sub>14</sub>)(R<sub>15</sub>), C(=NR<sub>14</sub>)-N(R<sub>14</sub>)(R<sub>15</sub>), COOR<sub>13</sub> or CON(R<sub>14</sub>)(R<sub>15</sub>), and where aryl may be substituted more than once by F, Cl, CN, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, or CO-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, where alkyl and alkenyl may be substituted more than once by F, Cl, CH<sub>3</sub>, OCH<sub>3</sub> or CN, NH-C(=NR<sub>14</sub>)-N(R<sub>14</sub>)(R<sub>15</sub>), N(R<sub>14</sub>)(R<sub>15</sub>), C(=NR<sub>14</sub>)-N(R<sub>14</sub>)(R<sub>15</sub>), COOR<sub>13</sub>, CON(R<sub>14</sub>)(R<sub>15</sub>), O-phenyl, phenyl or pyridyl;

COOR13, CON-(R14)(R15), CO-heteroalkyl, CO-(C<sub>6</sub>-C<sub>10</sub>)-aryl or SO<sub>2</sub>-(C<sub>6</sub>-C<sub>10</sub>)-aryl, where aryl may be substituted up to twice by F, Cl, CN, OH, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CF<sub>3</sub>, OCF<sub>3</sub>, COOR13 or CON(R14)(R15);

or the radicals R18 and R19 form with the nitrogen atom to which they are bonded a 3-7-membered, saturated heterocyclic ring which may comprise up to 3 heteroatoms selected from the group of N, O or S, where the heterocyclic ring may be substituted up to three times by F, Cl, Br, OH, oxo, N(R16)(R17) or (C<sub>1</sub>-C<sub>4</sub>)-alkyl;

R20 is (C<sub>1</sub>-C<sub>10</sub>)-alkyl, (C<sub>2</sub>-C<sub>10</sub>)-alkenyl, (C<sub>2</sub>-C<sub>10</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>6</sub>-C<sub>10</sub>)-aryl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>2</sub>-C<sub>4</sub>)-alkenyl or (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>2</sub>-C<sub>4</sub>)-alkynyl, where aryl may be substituted more than once by F, Cl, CN, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, where alkyl and alkenyl may be substituted more than once by F, Cl, CH<sub>3</sub>, OCH<sub>3</sub> or CN, NH-C(=NR14)-N(R14)(R15), N(R14)(R15), C(=NR14)-N(R14)(R15), COOR13, CON(R14)(R15), O-phenyl, phenyl or pyridyl, where phenyl may be substituted by F, Cl, CN or (C<sub>1</sub>-C<sub>6</sub>)-alkyl;

and their physiologically tolerated salts,

provided the radicals R6, R7, X, Y, and R8 do not have the following meanings at the same time:

R6 is H, Cl, CF<sub>3</sub>, CH<sub>3</sub>;

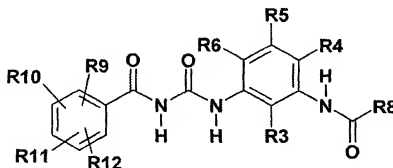
R7 is H;

X is O; and

Y is O, S;

R8 is substituted or unsubstituted NH-phenyl.

2. A compound of the formula I as claimed in claim 1, wherein said compound has the structure of compound Ia:



Ia

wherein

R9 is F, Cl, Br, OH, CF<sub>3</sub>, NO<sub>2</sub>, CN, OCF<sub>3</sub>, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, O-(C<sub>2</sub>-C<sub>6</sub>)-alkynyl, O-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, O-SO<sub>2</sub>-phenyl, where the phenyl ring may be substituted up to twice by F, Cl, Br, CN, OR13, R13, CF<sub>3</sub>, OCF<sub>3</sub>, COOR13 or CON(R14)(R15), or S-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, S-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, S-(C<sub>2</sub>-C<sub>6</sub>)-alkynyl, SO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-NH<sub>2</sub>, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, -COOR13, (C<sub>1</sub>-C<sub>6</sub>)-alkylene-COOR13, CON(R14)(R15), -N(R14)(R15), (C<sub>1</sub>-C<sub>6</sub>)-alkylene-N(R14)(R15), NH-COOR13, NH-CO-phenyl, NH-SO<sub>2</sub>-phenyl or phenyl, where the phenyl ring may be substituted up to twice by F, Cl, Br, CN, OR13, R13, CF<sub>3</sub>, OCF<sub>3</sub>, COOR13 or CON(R14)(R15);

R10, R11, R12 independently of one another are H, F, Cl, Br, OH, CF<sub>3</sub>, NO<sub>2</sub>, CN, OCF<sub>3</sub>, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, O-(C<sub>2</sub>-C<sub>6</sub>)-alkynyl, O-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, O-SO<sub>2</sub>-phenyl, where the phenyl ring may be substituted up to twice by F, Cl, Br, CN, OR13, R13, CF<sub>3</sub>, OCF<sub>3</sub>, COOR13 or CON(R14)(R15), S-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, S-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, S-(C<sub>2</sub>-C<sub>6</sub>)-alkynyl, SO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-NH<sub>2</sub>, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, -COOR13,

(C<sub>1</sub>-C<sub>6</sub>)-alkylene-COOR<sub>13</sub>, COOR<sub>13</sub>, CON(R<sub>14</sub>)(R<sub>15</sub>), -N(R<sub>14</sub>)(R<sub>15</sub>), (C<sub>1</sub>-C<sub>6</sub>)-alkylene-N(R<sub>14</sub>)(R<sub>15</sub>), C<sub>1</sub>-C<sub>6</sub>-alkylene-N(R<sub>14</sub>)(R<sub>15</sub>), N(R<sub>14</sub>)(R<sub>15</sub>), NH-COR<sub>13</sub>, NH-CO-phenyl, NH-SO<sub>2</sub>-phenyl or phenyl, where the phenyl ring may be substituted up to twice by F, Cl, Br, CN, OR<sub>13</sub>, R<sub>13</sub>, CF<sub>3</sub>, OCF<sub>3</sub>, COOR<sub>13</sub> or CON(R<sub>14</sub>)(R<sub>15</sub>);

R13 is H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl or (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl;

R3, R4, R5, are independently of one another H, F, Cl, Br, OH, CF<sub>3</sub>, NO<sub>2</sub>, CN, OCF<sub>3</sub>, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, O-(C<sub>1</sub>-C<sub>10</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>10</sub>)-alkenyl, O-(C<sub>2</sub>-C<sub>10</sub>)-alkynyl, S-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, S-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, S-(C<sub>2</sub>-C<sub>6</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, where alkyl, alkenyl, alkynyl and cycloalkyl may be substituted more than once by F, Cl, Br, SO-phenyl, SO<sub>2</sub>-phenyl, where the phenyl ring may be substituted by F, Cl, Br or R13, or OR13, COOR13, CON(R14)(R15), N(R14)(R15) or CO-heteroalkyl, O-SO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-SO<sub>2</sub>-(C<sub>6</sub>-C<sub>10</sub>)-aryl, O-(C<sub>6</sub>-C<sub>10</sub>)-aryl, where aryl may be substituted up to twice by F, Cl, CN, OR13, R13, CF<sub>3</sub> or OCF<sub>3</sub>, SO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-(C<sub>6</sub>-C<sub>10</sub>)-aryl, where the phenyl ring may be substituted up to twice by F, Cl, Br, CN, OR13, R13, CF<sub>3</sub>, OCF<sub>3</sub>, COOR13 or CON(R14)(R15), SO<sub>2</sub>-N(R14)(R15), COOR13, CO-heteroalkyl, N(R14)(R15) or heteroalkyl:

R6 is F, Cl, Br, OH, CF<sub>3</sub>, NO<sub>2</sub>, CN, OCF<sub>3</sub>, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, O-(C<sub>1</sub>-C<sub>10</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>10</sub>)-alkenyl, O-(C<sub>2</sub>-C<sub>10</sub>)-alkynyl, S-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, S-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, S-(C<sub>2</sub>-C<sub>6</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, where alkyl, alkenyl, alkynyl and cycloalkyl may be substituted more than once by F, Cl, Br, SO-phenyl, SO<sub>2</sub>-phenyl, where the phenyl ring may be substituted by F, Cl, Br or R13, or OR13, COOR13, CON(R14)(R15), N(R14)(R15) or CO-heteroalkyl, or O-SO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-SO<sub>2</sub>-(C<sub>8</sub>-C<sub>10</sub>)-aryl, O-(C<sub>8</sub>-C<sub>10</sub>)-aryl, where aryl may be substituted up to twice by

F, Cl, CN, OR13, R13, CF<sub>3</sub> or OCF<sub>3</sub>, or SO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, SO<sub>2</sub>-(C<sub>6</sub>-C<sub>10</sub>)-aryl, where the phenyl ring may be substituted up to twice by F, Cl, Br, CN, OR13, R13, CF<sub>3</sub>, OCF<sub>3</sub>, COOR13 or CON(R14)(R15), or SO<sub>2</sub>-N(R14)(R15), COOR13, CO-heteroalkyl, N(R14)(R15) or heteroalkyl;

R14, R15 independently of one another are H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, where alkyl may be substituted by N(R13)<sub>2</sub>,

(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, COO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, COO-(C<sub>1</sub>-C<sub>6</sub>)-alkylene-OCO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-phenyl, COO-phenyl, COO-(C<sub>1</sub>-C<sub>6</sub>)-alkenyl-phenyl, OH, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>1</sub>-C<sub>6</sub>)-alkenyl-phenyl or NH<sub>2</sub>;

or the radicals R14 and R15 form with the nitrogen atom to which they are bonded a 3-7-membered, saturated heterocyclic ring which may comprise up to 3 heteroatoms selected from the group of N, O or S, where the heterocyclic ring may be substituted up to three times by F, Cl, Br, OH, oxo, N(R16)(R17) or (C<sub>1</sub>-C<sub>4</sub>)-alkyl;

R16, R17 independently of one another are H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, where alkyl may be substituted by N(R13)<sub>2</sub>,

(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, COO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, COO-(C<sub>1</sub>-C<sub>6</sub>)-alkylene-OCO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-phenyl, COO-phenyl, COO-(C<sub>1</sub>-C<sub>6</sub>)-alkenyl-phenyl, OH, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>1</sub>-C<sub>6</sub>)-alkenyl-phenyl or NH<sub>2</sub>;

heteroalkyl is a 3-7-membered, saturated or up to triunsaturated heterocyclic ring which may comprise up to 4 heteroatoms selected from N, O or S, where the heterocyclic ring may be substituted up to three times by F, Cl, Br, CN, oxo, (C<sub>1</sub>-C<sub>4</sub>)-alkyl, -COOR13, (C<sub>1</sub>-C<sub>4</sub>)-alkylene-COOR13, COOR13, CON(R14)(R15), OR13 or N(R14)(R15) or phenyl, where phenyl may be substituted by COOR13;

R8 is N(R18)(R19) or OR20;

or R8 and R4 together form the group -NH-CO-;

R18, R19 independently of one another are H, (C<sub>1</sub>-C<sub>10</sub>)-alkyl, (C<sub>2</sub>-C<sub>10</sub>)-alkenyl, (C<sub>2</sub>-C<sub>10</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>6</sub>-C<sub>10</sub>)-aryl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>2</sub>-C<sub>4</sub>)-alkenyl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>2</sub>-C<sub>4</sub>)-alkynyl, heteroaryl, heteroaryl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, heteroaryl-(C<sub>2</sub>-C<sub>4</sub>)-alkenyl, heteroaryl-(C<sub>2</sub>-C<sub>4</sub>)-alkynyl, where alkyl, alkenyl, alkynyl and cycloalkyl may be substituted more than once by F, Cl, CN, OR<sub>13</sub>, R<sub>13</sub>, CF<sub>3</sub>, OCF<sub>3</sub>, (C<sub>6</sub>-C<sub>10</sub>)-aryl, NH-C(=NR<sub>14</sub>)-N(R<sub>14</sub>)(R<sub>15</sub>), N(R<sub>14</sub>)(R<sub>15</sub>), C(=NR<sub>14</sub>)-N(R<sub>14</sub>)(R<sub>15</sub>), COOR<sub>13</sub> or CON(R<sub>14</sub>)(R<sub>15</sub>), and where aryl may be substituted more than once by F, Cl, CN, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, where alkyl and alkenyl may be substituted more than once by F, Cl, CH<sub>3</sub>, OCH<sub>3</sub> or CN, or NH-C(=NR<sub>14</sub>)-N(R<sub>14</sub>)(R<sub>15</sub>), N(R<sub>14</sub>)(R<sub>15</sub>), C(=NR<sub>14</sub>)-N(R<sub>14</sub>)(R<sub>15</sub>), COOR<sub>13</sub>, CON(R<sub>14</sub>)(R<sub>15</sub>), O-phenyl, phenyl or pyridyl; COOR<sub>13</sub>, CON-(R<sub>14</sub>)(R<sub>15</sub>), CO-heteroalkyl, CO-(C<sub>6</sub>-C<sub>10</sub>)-aryl or SO<sub>2</sub>-(C<sub>6</sub>-C<sub>10</sub>)-aryl, where aryl may be substituted up to twice by F, Cl, CN, OH, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CF<sub>3</sub>, OCF<sub>3</sub>, COOR<sub>13</sub> or CON(R<sub>14</sub>)(R<sub>15</sub>);

or the radicals R18 and R19 form together with the nitrogen atom to which they are bonded a 3-7-membered, saturated heterocyclic ring which may comprise up to 3 heteroatoms selected from the group of N, O or S, where the heterocyclic ring may be substituted up to three times by F, Cl, Br, OH, oxo, N(R<sub>16</sub>)(R<sub>17</sub>) or (C<sub>1</sub>-C<sub>4</sub>)-alkyl;

R20 is (C<sub>1</sub>-C<sub>10</sub>)-alkyl, (C<sub>2</sub>-C<sub>10</sub>)-alkenyl, (C<sub>2</sub>-C<sub>10</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>6</sub>-C<sub>10</sub>)-aryl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>2</sub>-C<sub>4</sub>)-alkenyl or (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>2</sub>-C<sub>4</sub>)-alkynyl, where aryl may be substituted more than once by F, Cl, CN, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, where alkyl and alkenyl may be substituted more than once by F, Cl, CH<sub>3</sub>, OCH<sub>3</sub> or CN, or NH-C(=NR<sub>14</sub>)-N(R<sub>14</sub>)(R<sub>15</sub>), N(R<sub>14</sub>)(R<sub>15</sub>), C(=NR<sub>14</sub>)-N(R<sub>14</sub>)(R<sub>15</sub>), COOR<sub>13</sub>, CON(R<sub>14</sub>)(R<sub>15</sub>),



O-phenyl, phenyl or pyridyl, where phenyl may be substituted by F, Cl, CN or (C<sub>1</sub>-C<sub>6</sub>)-alkyl;

and their physiologically tolerated salts,

provided the radical R8 is not phenyl.

3. A compound of the formula Ia as claimed in claim 2, wherein

R9, R10, R11 independently of one another are F or Cl;

R12 is H;

R13 is H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl or (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl;

R6 is F, Cl, CF<sub>3</sub>, OCF<sub>3</sub>, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>2</sub>-C<sub>6</sub>)-alkynyl, O-(C<sub>1</sub>-C<sub>10</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>10</sub>)-alkenyl, O-(C<sub>2</sub>-C<sub>10</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, N(R14)(R15) or Cl; heteroalkyl, where alkyl, alkenyl, alkynyl and cycloalkyl may be substituted more than once by F, COOR13, CON(R14)(R15) or N(R14)(R15);

R14, R15 are independently of one another H, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, where alkyl may be substituted by N(R13)<sub>2</sub>;

heteroalkyl is a 3-7-membered, saturated or up to triunsaturated heterocyclic ring which may comprise up to 4 heteroatoms which correspond to N, O or S, where the heterocyclic ring may be substituted up to three times by F, Cl, Br, CN, oxo, (C<sub>1</sub>-C<sub>4</sub>)-alkyl, -COOR13, (C<sub>1</sub>-C<sub>4</sub>)-alkylene-COOR13, CON(R14)(R15), OR13 or N(R14)(R15) or phenyl, where phenyl may be substituted by COOR13;

R8 is N(R18)(R19) or OR20;

or R8 and R4 together form the group -NH-CO-;

R18, R19 are independently of one another H, (C<sub>1</sub>-C<sub>10</sub>)-alkyl, (C<sub>2</sub>-C<sub>10</sub>)-alkenyl, (C<sub>2</sub>-C<sub>10</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>6</sub>-C<sub>10</sub>)-

aryl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>2</sub>-C<sub>4</sub>)-alkenyl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>2</sub>-C<sub>4</sub>)-alkynyl, heteroaryl, heteroaryl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, heteroaryl-(C<sub>2</sub>-C<sub>4</sub>)-alkenyl, heteroaryl-(C<sub>2</sub>-C<sub>4</sub>)-alkynyl, where alkyl, alkenyl, alkynyl and cycloalkyl may be substituted more than once by F, Cl, CN, OR13, R13, CF<sub>3</sub>, OCF<sub>3</sub>, (C<sub>6</sub>-C<sub>10</sub>)-aryl, NH-C(=NR14)-N(R14)(R15), N(R14)(R15), C(=NR14)-N(R14)(R15), COOR13 or CON(R14)(R15), and where aryl may be substituted more than once by F, Cl, CN, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>2</sub>-C<sub>6</sub>)-alkenyl, CO-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CO-(C<sub>2</sub>-C<sub>6</sub>)-alkenyl, where alkyl and alkenyl may be substituted more than once by F, Cl, CH<sub>3</sub>, OCH<sub>3</sub> or CN, or NH-C(=NR14)-N(R14)(R15), N(R14)(R15), C(=NR14)-N(R14)(R15), COOR13, CON(R14)(R15), O-phenyl, phenyl or pyridyl; COOR13, CON-(R14)(R15), CO-heteroalkyl, CO-(C<sub>6</sub>-C<sub>10</sub>)-aryl or SO<sub>2</sub>-(C<sub>6</sub>-C<sub>10</sub>)-aryl, where aryl may be substituted up to twice by F, Cl, CN, OH, (C<sub>1</sub>-C<sub>6</sub>)-alkyl, O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, CF<sub>3</sub>, OCF<sub>3</sub>, COOR13 or CON(R14)(R15);

or the radicals R18 and R19 form together with the nitrogen atom to which they are bonded a 3-7-membered, saturated heterocyclic ring which may comprise up to 2 further heteroatoms from the group of N, O or S, where the heterocyclic ring may be substituted up to three times by F, Cl, Br, OH, oxo, N(R16)(R17) or (C<sub>1</sub>-C<sub>4</sub>)-alkyl;

R20 is (C<sub>1</sub>-C<sub>10</sub>)-alkyl, (C<sub>2</sub>-C<sub>10</sub>)-alkenyl, (C<sub>2</sub>-C<sub>10</sub>)-alkynyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl, (C<sub>3</sub>-C<sub>7</sub>)-cycloalkyl-(C<sub>1</sub>-C<sub>6</sub>)-alkyl, (C<sub>6</sub>-C<sub>10</sub>)-aryl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>1</sub>-C<sub>4</sub>)-alkyl, (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>2</sub>-C<sub>4</sub>)-alkenyl or (C<sub>6</sub>-C<sub>10</sub>)-aryl-(C<sub>2</sub>-C<sub>4</sub>)-alkynyl, where aryl may be substituted more than once by F, Cl, CN, or O-(C<sub>1</sub>-C<sub>6</sub>)-alkyl.

4. A pharmaceutical composition comprising one or more of the compounds as claimed in claim 1.

5. A pharmaceutical composition comprising one or more of the compounds as claimed in claim 1 and at least one other active ingredient.

6. A pharmaceutical composition as claimed in claim 5, wherein the other active ingredient comprises one or more antidiabetics, hypoglycemic active ingredients,

HMG-CoA reductase inhibitors, cholesterol absorption inhibitors, PPAR gamma agonists, PPAR alpha agonists, PPAR alpha/gamma agonists, fibrates, MTP inhibitors, bile acid absorption inhibitors, CETP inhibitors, polymeric bile acid adsorbents, LDL receptor inducers, ACAT inhibitors, antioxidants, lipoprotein lipase inhibitors, ATP-citrate lyase inhibitors, squalene synthetase inhibitors, lipoprotein(a) antagonists, lipase inhibitors, insulins, sulfonylureas, biguanides, meglitinides, thiazolidinediones,  $\alpha$ -glucosidase inhibitors, active ingredients which act on the ATP-dependent potassium channel of the beta cells, CART agonists, NPY agonists, MC4 agonists, orexin agonists, H3 agonists, TNF agonists, CRF agonists, CRF BP antagonists, urocortin agonists,  $\beta$ 3 agonists, MSH (melanocyte-stimulating hormone) agonists, CCK agonists, serotonin reuptake inhibitors, mixed serotonergic and noradrenergic compounds, 5HT agonists, bombesin agonists, galanin antagonists, growth hormones, growth hormone-releasing compounds, TRH agonists, decoupling protein 2 or 3 modulators, leptin agonists, DA agonists (bromocriptine, Doreprexin), lipase/amylase inhibitors, PPAR modulators, RXR modulators or TR- $\beta$  agonists or amphetamines.

7. A process for producing a pharmaceutical composition comprising mixing one or more of the compounds as claimed in claim 1 with an active ingredient and a pharmaceutically suitable carrier and converting this mixture into a form suitable for administration.
8. A method for reducing blood glucose, comprising administering to a subject in need thereof, one or more compounds claimed in claim 1.
9. A method for treating type 2 diabetes, comprising administering to a subject in need thereof, one or more compounds claimed in claim 1.
10. A method for treating disturbances of lipid and carbohydrate metabolism, comprising administering to a subject in need thereof, one or more compounds claimed in claim 1.

11. A method for treating arteriosclerotic manifestations, comprising administering to a subject in need thereof, one or more compounds claimed in claim 1.
12. A method for treating insulin resistance, comprising administering to a subject in need thereof, one or more compounds claimed in claim 1.